

PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

MIYAKE, Akira, et al.

Appln. No.: Continuation of App. No. 09/600,776

Confirmation No. Unknown

Group Art Unit: 1647

Filed: October 1, 2001

Examiner: J. Seharaseyon

For: NOVEL POTASSIUM CHANNEL PROTEIN

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

IN THE SPECIFICATION:

Amend the specification by inserting before the first line the sentence:

This is a Continuation of Application No. 09/600,776 filed July 21, 2000, the disclosure of which is incorporated herein by reference.

IN THE CLAIMS:

Please cancel claims 1-11 without prejudice or disclaimer.

Please add the following new claims:

12. (New) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing

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a vector comprising an isolated polynucleotide molecule that hybridizes with a nucleotide sequence of SEQ ID No:1 or SEQ ID No:5 under stringent conditions, and which has an index of modification of said potassium channel protein in response to a physiological characteristic of the potassium channel protein; and

- b) measuring said index.

13. (New) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim 12.

14. (New) The pharmaceutical composition according to claim 13, which is an agent for treating a central nervous system disorder.

15. (New) The pharmaceutical composition of claim 14, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

16. (New) The pharmaceutical composition according to claim 15, which is an agent for treating dementia.

17. (New) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

- a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing a vector comprising an isolated polynucleotide molecule which comprises a nucleotide sequence encoding an amino acid sequence selected from the group consisting of SEQ ID NO: 2 and

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SEQ ID NO: 6 which has an index of modification of said potassium channel protein in response to a physiological characteristic of the potassium channel protein; and

- b) measuring said index.

18. (New) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim 17.

19. (New) The pharmaceutical composition according to claim 18, which is an agent for treating a central nervous system disorder.

20. (New) The pharmaceutical composition of claim 19, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

21. (New) The pharmaceutical composition according to claim 20, which is an agent for treating dementia.

22. (New) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

- a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing a vector comprising an isolated polynucleotide molecule which comprises a nucleotide sequence selected from the group consisting of the 6th to 3257th nucleotide sequence of SEQ ID NO: 1 and the 4th to 3057th nucleotide sequence of SEQ ID NO: 5, and a nucleotide sequence which is degenerate with respect to said nucleotide molecule, which has an index of modification of said

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potassium channel protein in response to a physiological characteristic of the potassium channel protein; and

- b) measuring said index.

23. (New) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim 22.

24. (New) The pharmaceutical composition according to claim 23, which is an agent for treating a central nervous system disorder.

25. (New) The pharmaceutical composition of claim 24, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

26. (New) The pharmaceutical composition according to claim 25, which is an agent for treating dementia.

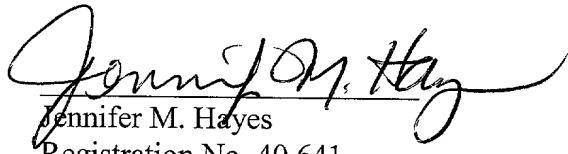
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REMARKS

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,



Jennifer M. Hayes
Registration No. 40,641

SUGHRUE, MION, ZINN,
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: October 1, 2001

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

Before the first line on page 1, insert the sentence:

This is a Continuation of Application No. 09/600,776 filed July 21, 2000, the disclosure
of which is incorporated herein by reference.

IN THE CLAIMS:

Claims 12-26 are added as new claims.

12. (New) A method of screening for compounds and peptides capable of modifying
the activity of a potassium channel protein comprising:

a) adding an agent to be tested to a system which comprises a potassium channel
protein produced by expressing the protein in a host cell or on a surface of a host cell containing
a vector comprising an isolated polynucleotide molecule that hybridizes with a nucleotide
sequence of SEQ ID No: 1 or SEQ ID No: 5 under stringent conditions, and which has an index
of modification of said potassium channel protein in response to a physiological characteristic of
the potassium channel protein; and

b) measuring said index.

13. (New) A pharmaceutical composition which comprises as an active ingredient a
compound or a peptide which is capable of significantly modifying the activity of potassium

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channel protein exclusively expressed in the brain and which is selected by the screening method of claim 12.

14. (New) The pharmaceutical composition according to claim 13, which is an agent for treating a central nervous system disorder.

15. (New) The pharmaceutical composition of claim 14, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

16. (New) The pharmaceutical composition according to claim 15, which is an agent for treating dementia.

17. (New) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing a vector comprising an isolated polynucleotide molecule which comprises a nucleotide sequence encoding an amino acid sequence selected from the group consisting of SEQ ID NO: 2 and SEQ ID NO: 6 which has an index of modification of said potassium channel protein in response to a physiological characteristic of the potassium channel protein; and

b) measuring said index.

18. (New) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim 17.

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19. (New) The pharmaceutical composition according to claim 18, which is an agent for treating a central nervous system disorder.

20. (New) The pharmaceutical composition of claim 19, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

21. (New) The pharmaceutical composition according to claim 20, which is an agent for treating dementia.

22. (New) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing a vector comprising an isolated polynucleotide molecule which comprises a nucleotide sequence selected from the group consisting of the 6th to 3257th nucleotide sequence of SEQ ID NO: 1 and the 4th to 3057th nucleotide sequence of SEQ ID NO: 5, and a nucleotide sequence which is degenerate with respect to said nucleotide molecule, which has an index of modification of said potassium channel protein in response to a physiological characteristic of the potassium channel protein; and

b) measuring said index.

23. (New) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim 22.

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24. (New) The pharmaceutical composition according to claim 23, which is an agent for treating a central nervous system disorder.

25. (New) The pharmaceutical composition of claim 24, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

26. (New) The pharmaceutical composition according to claim 25, which is an agent for treating dementia.